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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/880,672	06/13/2001	Hyun-Dong Lee	678-659 (P9670)	5097

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EXAMINER

AGDEPPA, HECTOR A

ART UNIT PAPER NUMBER

2642

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/880,672	<b>Applicant(s)</b> LEE, HYUN-DONG	
	<b>Examiner</b> Hector A. Agdeppa	<b>Art Unit</b> 2642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 6/13/2001, 6/3/2003, 6/21/2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/3/2003, 6/21/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Korea on 12/14/2000. It is noted, however, that applicant has not filed a certified copy of the 2000-76458 application as required by 35 U.S.C. 119(b).

### ***Drawings***

2. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claims 1 and 4 are objected to because of the following informalities:  
It is common practice to state the full definition of an acronym before the first use of that acronym. For example, claim 1 should read "a liquid crystal display (LCD) window... an LCD module..." Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 2 and 5 recite the limitation "in a predetermined direction." Such a limitation is indefinite because it does not define or limit anything and has no meaning in the claim. Nor is it within the scope of the specification since the specification only specifically describes a panel that extends below an LCD window away from a top portion of a device.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 – 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,427,017 (Toki) in view of applicant's admitted prior art and US 6,554,098 (Komura).

As to claim 1, Toki teaches a piezoelectric transparent speaker unit 26, read as the claimed panel-type speaker mounted on a plate, interposed between a liquid crystal display (LCD) transparent member 2, read as the claimed LCD window exposed on the top end of an upper casing frame of a main body of a mobile communications terminal 1, and an LCD body 10, read as the claimed LCD module. Toki further teaches a front airspace 6 and back airspace 11, either reading on the claimed gap. (Figs. 1 and 2 and Col. 2, line 65 – Col. 3, line 23, Col. 5, lines 15 - 31 of Toki)

What Toki does not teach is the claimed plate being divided into a first and second portion with the speaker vibrator or exciter being mounted on the second portion as Toki employs a piezoelectric speaker means. However, Komura teaches a panel speaker means wherein a vibration driver is mounted on one end of a vibrating plate, wherein the vibrating plate can be any type of display such as an LCD display. (Abstract, Figs. 10 – 12, Col. 2, lines 62 – 65, Col. 3, lines 4 – 56, Col. 5, line 19 – Col. 6, line 12, Col. 9, lines 16 – 61 of Komura)

Also, as seen in Fig. 2 and P. 2, lines 7 – 23 of the specification for the present invention, it is conventionally known to have a speaker/LCD configuration wherein the plate upon which the speaker unit is mounted is divided into a first and second portions. It would have been obvious for one of ordinary skill in the art at the time the invention was made to have used a speaker configuration as taught in the admitted prior art or as that taught by Komura inasmuch as any known speaker means that could be interposed between LCD transparent window 2 and LCD body 10 of Toki would effect the same operation contemplated by Toki.

Toki teaches a configuration in terms of the layering of elements exactly like that disclosed by the present invention. Moreover, as seen by applicant's admitted prior art and the recited advantage to the present invention, the actual speaker means are inconsequential as long as they comprise a panel-type speaker. The inventive aspect of applicant's invention is merely placing a window or extra barrier over or on top of the plate or LCD window upon which the speaker is mounted. Even in many conventional devices, the LCD means is covered by a window that is usually integrated into the body cover. It would be rare if at all possible to find a wireless telephone for example, that didn't employ some window cover for the LCD display.

As to claim 2, see the rejection of claim 1 and note that applicant's admitted prior art teaches the second portion extending in the length-wise direction of the radio terminal.

As to claim 3, Komura teaches that nearly any transparent material may be used as the panel such as a light transparent, light transmissive, light reflective, light reflective preventive, shielding, etc. materials. Either light transmissive or light reflective or shielding materials may be read as a polarizing material. The effects of any of these materials including the polarizing materials does not affect the inventive aspect of the present invention, but is merely one of a plurality of known materials that may be used in this instance for effecting a certain visual characteristic.

As to claim 4, see the rejection of claims 1 and 3. Note that as discussed in claim 3, the panel in claim 1, analogous to the second LCD window in claim 4, may be any transparent material. Usually, LCD windows, as discussed above, are merely

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integrated into or with the body cover and hence can be any transparent material.

Therefore, the same material used for the first LCD window could be used for the second LCD window inasmuch as they have the same property requirements, i.e., being transparent.

As to claim 5, see the rejection of claim 2.

As to claim 6, see the rejection of claim 3 and note again, that any material having some transparent or light reflecting properties can be made from glass or plastic or some polarizing material. Note also, that because claim 6 recites the language "formed of one of..." all that the prior art must teach is one of the claimed limitations and at least the polarizing material is taught by Komura as discussed above.

As to claim 7, see Fig. 2 of Toki and note that the piezoelectric speaker comprises in part electric 45 which is in contact with LCD transparent member 2.

As to claim 8, see Fig. 2 of Toki and note that back airspace 11 creates a configuration wherein LCD body 10, read as the claimed LCD module, is spaced from the panel or piezoelectric speaker unit 26.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 4,352,961 (Kumada et al.) teaches a transparent flat pane piezoelectric speaker.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hector A. Agdeppa whose telephone number is 703-305-1844. The examiner can normally be reached on Mon thru Fri 9:30am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ahmad F. Matar can be reached on 703-305-4731. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H.A.A.

November 9, 2004

HECTOR A. AGDEPPA  
PATENT EXAMINER

A handwritten signature in black ink, appearing to be 'H.A. Agdeppa', written over the printed name and title.